FACT SHEET FOR NPDES PERMIT WA0040029
TRUEGUARD, LLC
(December 13, 2007)

PURPOSE OF THIS FACT SHEET

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed National Pollutant Discharge Elimination System (NPDES) permit for TrueGuard, LLC (TrueGuard).

The Environmental Protection Agency (EPA) developed the NPDES permitting program as a tool to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." EPA delegated to Ecology the power and duty to write, issue, and enforce NPDES permits within Washington State. Both state and federal laws require any industrial facility to obtain a permit before discharging waste or chemicals to a water body.

An NPDES permit limits the types and amounts of pollution the Permittee may discharge. Those limits are based either on (1) the pollution control or wastewater treatment technology available to the industry, or on (2) the receiving water's customary beneficial uses. This fact sheet complies with Section 173-220-060 of the Washington Administrative Code (WAC), which requires Ecology to prepare a draft permit *and accompanying fact sheet* for public evaluation before issuing an NPDES permit.

PUBLIC ROLE IN THE PERMIT

Ecology makes the draft permit and fact sheet available for public review and comment at least 30 days before we issue the final permit to the facility operator (WAC 173-220-050). Copies of the fact sheet and draft permit for TrueGuard, NPDES Permit WA0040029, are available for public review and comment from June 17, 2008, until the close of business July 16, 2008. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement**.

Before publishing the draft NPDES permit, TrueGuard reviewed it for factual accuracy. Ecology corrected any errors or omissions about the facility's location, product type or production rate, discharges or receiving water, or its history.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this Fact Sheet as **Appendix D - Response to Comments**, and publish it when we issue the final NPDES permit. The rest of the fact sheet will not be revised, but the full document will become part of the legal history contained in the facility's permit file.

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

I. INTRODUCTION

Table 1 General information

Facility Name:	TrueGuard, LLC
Facility Former Name:	Allweather Wood Treaters, Inc.
Facility Address:	725 South 32nd Street Washougal, WA 98671
Standard Industrial Classification (SIC) Code:	2491
Type of Facility:	Wood Preserving
Discharge Location:	Water body name: Gibbons Creek Remnant Channel. Outfall 001: Latitude: 45º 34' 16" N Longitude: 122º 20' 07" W Outfall 002: Latitude: 45º 34' 15" N Longitude: 122º 20' 23" W
Water Body ID Number:	1223093455675- Gibbons Creek
NPDES Permit No. WA0040029	Issuance Date: March 1, 2003 Effective Date: March 1, 2003 Expiration Date: March 1, 2008 Modification Date: September 1, 2004 2nd Modification Date: February 23, 2006 3rd Modification Date: November 5, 2007

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) of permits, administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. Our state legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement to the Department of Ecology (Ecology). The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in 90.48 Revised Code of Washington (RCW).

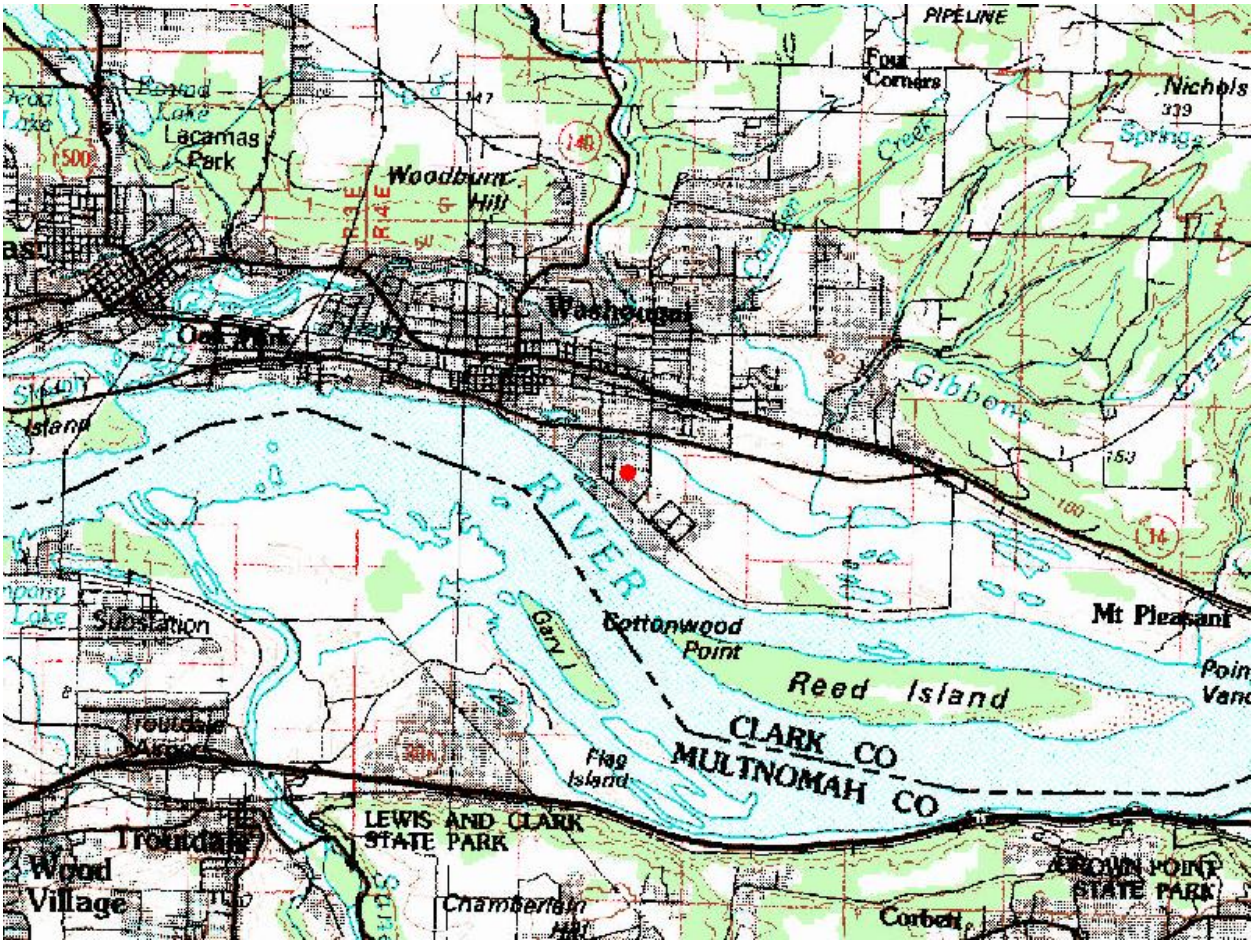
Ecology adopted rules describing how we exercise our authority:

- Procedures Ecology follows for issuing NPDES permits [chapter 173-220 Washington Administrative Code (WAC)],
- Water quality criteria for surface waters (chapter 173-201A WAC) and for ground waters (chapter 173-200 WAC)
- Sediment management standards (chapter 173-204 WAC).

These rules require any industrial facility operator to obtain an NPDES permit before discharging wastewater to state waters. They also define the basis for limits on each discharge and for other performance requirements imposed by the permit.

Under the NPDES permit program Ecology must prepare a draft permit and accompanying fact sheet, and make it available for public review. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments on the draft permit, during a period of thirty days (WAC 173-220-050). (See **Appendix A--Public Involvement** for more detail about the Public Notice and Comment procedures). After the Public Comment Period ends, Ecology may make changes to the draft NPDES permit in response to comments. Ecology will summarize the responses to comments and any changes to the permit in **Appendix D.**

Figure 1 TrueGuard location on the map.



TrueGuard discharges stormwater to Gibbons Creek Remnant Channel. Water from Gibbons Creek Remnant Channel is pumped to Columbia River at river mile 123.

II. BACKGROUND INFORMATION

A. Facility Description

History

TrueGuard, LLC (TrueGuard) operates a wood treatment facility that treats lumber with alkaline copper quat (ACQ), borate, chromated copper arsenate (CCA) and fire retardant to produce fire, pest, and decay resistant wood products. The facility began its initial operation in fall of 1984 and changed its name from Allweather Wood Treaters to TrueGuard in 2007. Almost the entire facility is paved, including the processing area, tank farm and treated product storage area. The processing area, tank farm, and part of the treated and untreated wood storage area are also covered.

The site is located approximately one-eighth of a mile south of Lewis and Clark Highway, between 32nd and 28th street in the Camas/Washougal Industrial Park in Washougal. The Industrial Park itself is adjacent to the Steigerwald Lake National Wildlife Refuge.

Industrial Process

TrueGuard, a wood preserving facility, pressure treats lumber with ACQ, borates and CCA. The facility conditions wood in separate drying kilns to reduce the moisture content of the wood prior to treatment in retorts. TrueGuard uses dedicated forklifts in the retort area to minimize the tracking of chemicals off the drip pad. It also stores treated lumber in both covered and uncovered areas. The retort and the tank farm area is fully contained and covered. The floor is concrete and sloped to increase dripping from bundled lumber. The process area includes four sumps that collect and transfer drips and spills of treating solution to the main collection sump for recycle back into process water. Each sump is provided with a float controlled pump. TrueGuard handles any residue collected in the sump as a dangerous waste.

TrueGuard does not use fire retardants at this facility but does use the following chemicals to preserve wood:

1. Alkaline copper quat (ACQ)—85 percent.
2. Chromated copper arsenate (CCA)—5 to 6 percent.
3. Borates—8 to 10 percent.

TrueGuard has an extensive inventory of building code approved preserved wood products. Product categories include fencing, decking, structural framing lumber, timbers and treated plywood. TrueGuard stocks a complete line of GeoDeck composite decking and fairway vinyl railing systems. The largest percentages of products are Hem fir species, although some Douglas fir items are available in fencing and in fire retardant lumber. Operation and production information include:

1. Annual production—86 million board feet.
2. Anticipated increases or decreases in production—5 percent decrease in 2008.
3. Seasonal variation in production—little seasonal variation with lower production in November, December and January.
4. Raw materials—Hem (95 percent) and Douglas fir (5%).

5. Days of operation and number of shifts—seven days a week, two eight-hour shifts a day.

6. Approximate number of people employed—70 employees.

7. Type and amount of chemicals stored in a contained building—tens of thousands of gallons of chemical use for wood preservation (ACQ, CCA & borates).

Wastewater Treatment

TrueGuard operates an electrocoagulation stormwater treatment system that discharges through Outfall 001. Only treated stormwater from a treated wood storage area discharges through Outfall 001. TrueGuard discharges untreated stormwater from an untreated wood storage area through Outfall 002. Both areas are separated by curbs and striping. TrueGuard trains its employees to minimize the potential for wood to be stored in improper areas.

The electrocoagulation stormwater collection and treatment system was experimental in nature when the facility first built it. The facility implemented the system in phases in order to minimize technological risk and to spread out costs. The facility initially put the system in place in late August of 2001. Between September 2001 and March 2002 the electrocoagulation treatment unit treated stormwater contaminated mostly with CCA. EPA came to an agreement with the wood treating industry ……As a result of this agreement, the facility started using ACQ in 2003. Ecology recognizes the electrocoagulation collection and treatment system as a proven AKART[1] option for wood treating facilities and many other industries in Washington.

The following are parts of the electrocoagulation treatment system:

1. Two stormwater storage tanks
   a. 600,000 gallon
   b. 200,000 gallon
2. Electrocoagulation aluminum and iron cells with treatment capacity of 110 to 120 gallons per minute (gpm).
3. Settling tanks with the biggest tank of approximately 60,000 gallons.
4. Filters.
5. A filter press.

TrueGuard performed a pilot study of a media filter and successfully proved a high rate of copper removal. Vendors predicted the filter would reduce copper concentration from 200 to 300 µg/L before filtration to 4 and 7 µg/L after filtration. TrueGuard did not detect copper above a detection level of 10 µg/L in a sample. The media filtration proved to be very effective for both, dissolved and non-dissolved copper; however, cost of media replacement can be high. This depends on how many times the facility must replace the media annually to maintain high performance.

[1] Acronym for "all known available and reasonable methods"..."to prevent and control"..."pollution" (RCW 90.48.010, RCW 90.48.520).

Residual Solids

The facility uses a fabric filter solids separator to dewater residual solids which it tests periodically and disposes of at the Hillsboro Landfill as non hazardous material.

Discharge Outfalls

Both outfalls discharge to a stormwater sewer system. The stormwater sewer discharges to Gibbons Creek Remnant Channel. The City pumps stormwater from Gibbons Creek to the Columbia River.

The Permittee has three drainage areas:

1. Outfall 001—stormwater from 394,218 square feet (9.05 acres) of preserved wood storage area is treated in the stormwater electrocoagulation treatment system and discharged through Outfall 001.

2. Outfall 002—stormwater from 132,858 square feet (3.05 acres) of unpreserved wood storage area is discharged through Outfall 002 without treatment.

3. Roof—stormwater from the roof is collected in a tank and used in the wood preservation process.

B. Permit Status

TrueGuard submitted an application for permit renewal on December 22, 2006. Ecology accepted it as complete on January 5, 2007.

Ecology issued the previous permit for this facility on March 1, 2003. The previous permit placed interim and final effluent limits on the following parameters:

1. pH
2. Oil and Grease (O&G)
3. Total Suspended Solids (TSS)
4. Arsenic
5. Chromium, Hexavalent
6. Chromium, Total
7. Copper

Table 2, Table 3, Table 4 and Table 5 list the previous permit interim and final limits for the Outfall 001 and Outfall 002.

Table 2 Interim effluent limitations: Outfall 001

Parameter	Average Monthly[a]	Maximum Daily[b]
pH (standard units)	between 6.0 and 9.0	

Table 2 Interim effluent limitations: Outfall 001

Parameter	Average Monthly[a]	Maximum Daily[b]
O&G (mg/L[2])	N/A	10
TSS (mg/L)	N/A	80
Arsenic (μg/L[3])	N/A	340
Chromium, total (μg/L)	N/A	770
Copper (μg/L)	N/A	280
[a] The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.		
[b] The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH, which must not be averaged.		

Table 3 Interim effluent limitations: Outfall 002

Parameter	Average Monthly[a]	Maximum Daily[b]
pH (standard units)	between 6.0 and 9.0	
O&G (mg/L)	N/A	10
TSS (mg/L)	N/A	80
Arsenic (μg/L)	N/A	340
Chromium, total (μg/L)	N/A	460
Copper (μg/L)	N/A	240
[a] The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.		
[b] The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH, which must not be averaged.		

Table 4 Final effluent limitations: Outfall 001

Parameter	Average Monthly[a]	Maximum Daily[b]

[2] Milligrams per liter.
[3] Micrograms per liter.

Table 4 Final effluent limitations: Outfall 001

Parameter	Average Monthly[a]	Maximum Daily[b]
pH (standard units)	between 6.0 and 9.0	
O&G (mg/L)	N/A	10
TSS (mg/L)	N/A	80
Arsenic (μg/L)	N/A	340
Chromium, total (μg/L)	N/A	770
Copper (μg/L)	N/A	36 (modified to interim limit of 160 on February 23, 2006)
Chromium, hexavalent (μg/L)	N/A	48
[a] The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.		
[b] The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH, which must not be averaged.		

Table 5 Final effluent limitations: Outfall 002

Parameter	Average Monthly[a]	Maximum Daily[b]
pH (standard units)	between 6.0 and 9.0	
O&G (mg/L)	N/A	10
TSS (mg/L)	N/A	80
Arsenic (μg/L)	N/A	340
Chromium, total (μg/L)	N/A	460
Copper (μg/L)	N/A	81 (modified to interim limit of 160 on February 23, 2006)
Chromium, hexavalent (μg/L)	N/A	72
[a] The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.		
[b] The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with		

Table 5 Final effluent limitations: Outfall 002

Parameter	Average Monthly[a]	Maximum Daily[b]
limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH, which must not be averaged.		

C. Summary of Compliance with Previous Permit Issued

Ecology staff last conducted a compliance inspection on January 30, 2008.

Table 6 summarizes the permit limit violations.

Table 6 Summary of the permit limit violations.

Begin Date	Outfall	Parameter	Value Type	Units	Value	Min Limit	Max Limit
1-Sep-03	1	Copper	MXD[4]	µg/L	70		36
1-Oct-03	1	Copper	MXD	µg/L	928		36
1-Oct-03	2	Copper	MXD	µg/L	110		81
1-Oct-03	2	pH	MIN	S.U.	5.65	6	
1-Oct-03	2	TSS	MXD	mg/L	104		80
1-Nov-03	1	Chromium, hexavalent	MXD	µg/L	99		48
1-Nov-03	1	Copper	MXD	µg/L	224		36
1-Dec-03	1	Chromium, hexavalent	MXD	µg/L	142		48
1-Dec-03	1	Copper	MXD	µg/L	153		36
1-Jan-04	1	Copper	MXD	µg/L	87		36
1-Jan-04	2	TSS	MXD	mg/L	136		80
1-Feb-04	1	Copper	MXD	µg/L	132		36
1-Mar-04	1	Copper	MXD	µg/L	143		36
1-Mar-04	2	TSS	MXD	mg/L	90		80
1-Apr-04	1	Copper	MXD	µg/L	353		36
1-Apr-04	2	Copper	MXD	µg/L	113		81
1-May-04	1	Copper	MXD	µg/L	210		36
1-Sep-04	1	Copper	MXD	µg/L	188		160
1-Sep-04	2	Copper	MXD	µg/L	135		81
1-Oct-04	1	Copper	MXD	µg/L	178		160

[4] Maximum daily.

Table 6 Summary of the permit limit violations.

Begin Date	Outfall	Parameter	Value Type	Units	Value	Min Limit	Max Limit
1-Oct-04	2	TSS	MXD	mg/L	83		80
1-Nov-04	2	Copper	MXD	µg/L	88		81
1-Dec-04	2	TSS	MXD	mg/L	210		80
1-Apr-05	2	Copper	MXD	µg/L	100		81
1-Apr-05	2	O&G	MXD	mg/L	11.8		10
1-Apr-05	2	TSS	MXD	mg/L	140		80
1-May-05	2	TSS	MXD	mg/L	140		80
1-Sep-05	2	Copper	MXD	µg/L	87		81
1-Sep-05	2	pH	MIN	S.U.	5.94	6	
1-Feb-06	1	Copper	MXD	µg/L	360		160
1-Feb-06	2	Copper	MXD	µg/L	110		81
1-Sep-06	1	Copper	MXD	µg/L	200		160
1-Mar-07	1	Chromium, hexavalent	MXD	µg/L	58.8		48
1-Mar-07	2	TSS	MXD	mg/L	160		80
1-Nov-07	2	O&G	MXD	mg/L	34		10
1-Nov-07	2	pH	MAX	S.U.	9.48		9

D. Wastewater Characterization

The concentration of pollutants in the discharge was reported in the NPDES application and in discharge monitoring reports (DMRs). The effluent is characterized as follows:

Table 7: Wastewater characterization reported in the NPDES application: Outfall 001.

Parameter	Average	Maximum
Biochemical oxygen demand (BOD) (mg/L)		16.9
Chemical oxygen demand (COD) (mg/L)		49.6
Total organic carbon (TOC) (mg/L)		18
TSS (mg/L)	15.6 (8 samples)	66.0
Ammonia (mg/L)		2.5

Table 7: Wastewater characterization reported in the NPDES application: Outfall 001.

Parameter	Average	Maximum
Flow (L/day[5])	93,269	1,673,784 (307 gpd[6])
Temperature, winter (ºC[7])		8.80
Temperature, summer		To be determined.
pH (standard units)	Between 7.54 and 8.50 (8 samples)	
O&G (mg/L)	<2.0 (8 samples)	3.8
Arsenic (µg/L)	19 (8 samples)	45
Chromium (µg/L)	17.2 (8 samples)	51
Copper (µg/L)	131 (8 samples)	360

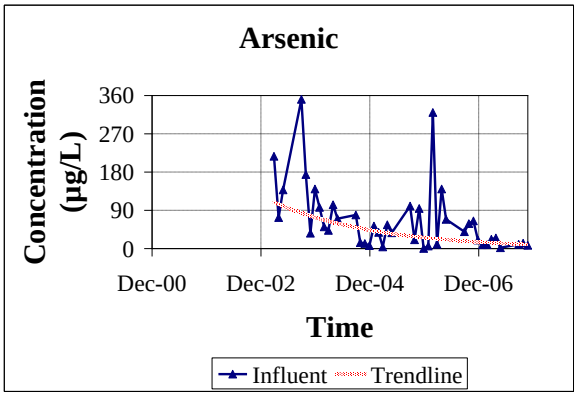
Table 8: Wastewater characterization reported in the NPDES application: Outfall 002.

Parameter	Average	Maximum
BOD (mg/L)		20.7
COD (mg/L)		62.9
TOC (mg/L)		9.8
TSS (mg/L)	44.6 (8 samples)	74
Ammonia (mg/L)		0.80
Flow (L/day[8])	93,269	568,618
Temperature, winter (ºC[9])		16.2
Temperature, summer		To be determined.
pH (standard units)	Between 6.11 and 6.85 (8 samples)	
O&G (mg/L)	3.05 (8 samples)	6.5
Arsenic (µg/L)	12 (8 samples)	30
Chromium (µg/L)	7.4 (8 samples)	22
Copper (µg/L)	57.4 (8 samples)	100

[5] Liters per day.
[6] Gallons per day.
[7] Degree Celsius.
[8] Liters per day.
[9] Degree Celsius.

Figure 2 through Figure 17 characterize effluent as reported on DMRs.

Figure 2 Arsenic in influent and effluent: Outfall 001.



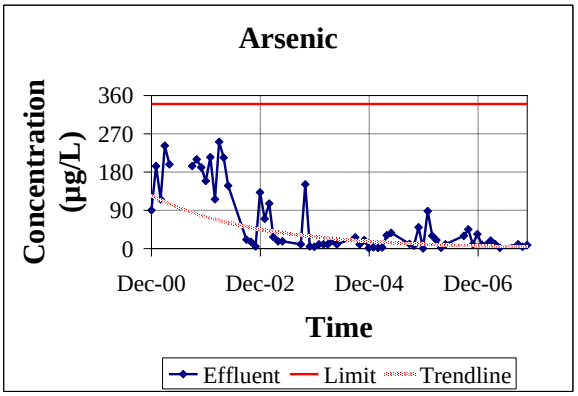
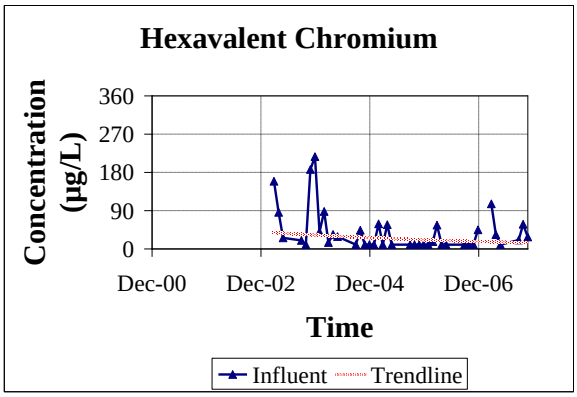


Figure 3 Hexavalent chromium in influent and effluent: Outfall 001.



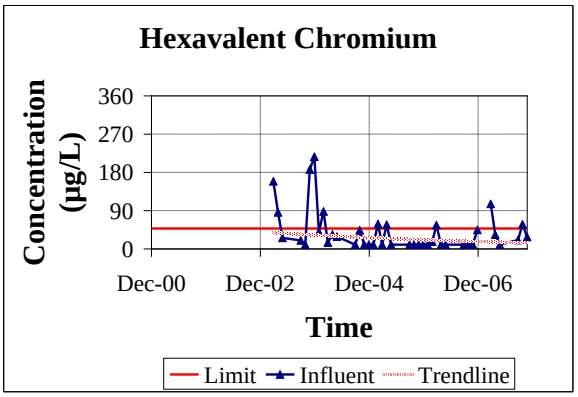
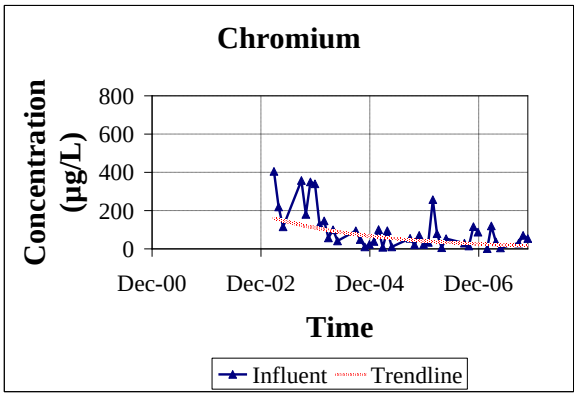


Figure 4 Total chromium in influent and effluent: Outfall 001.



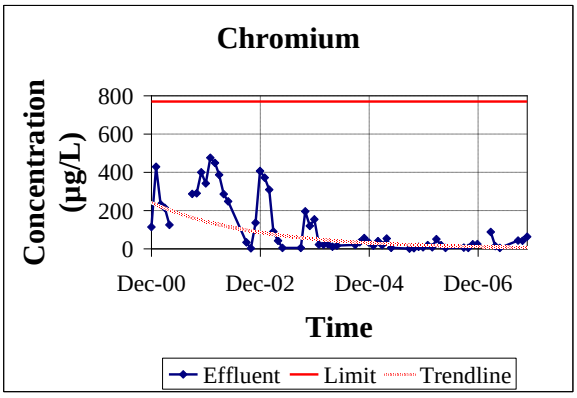
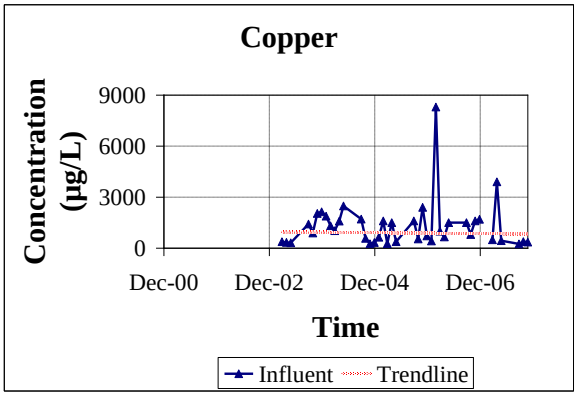


Figure 5 Total copper in influent and effluent: Outfall 001.



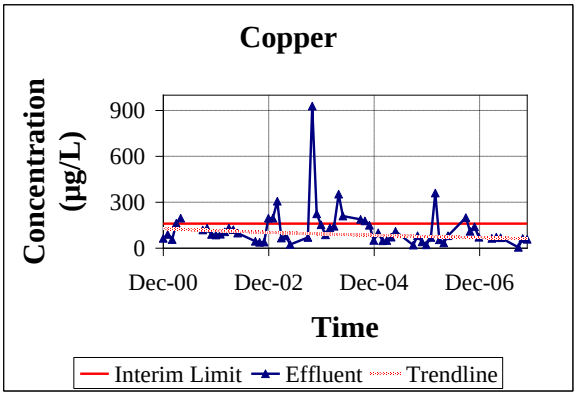
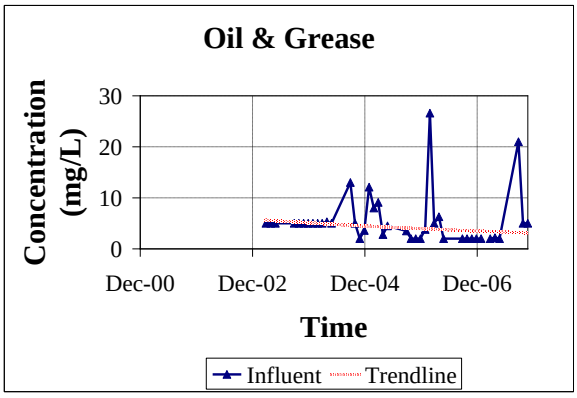


Figure 6 Oil and grease in influent and effluent: Outfall 001.



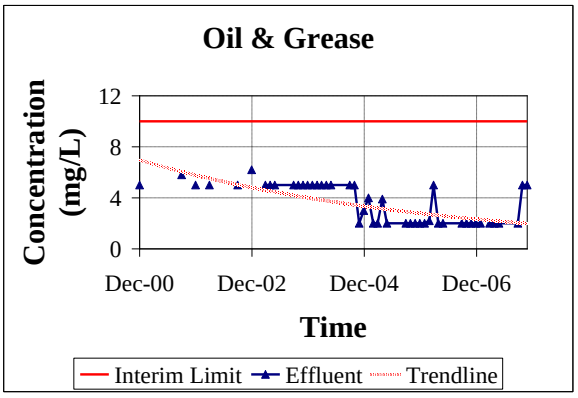
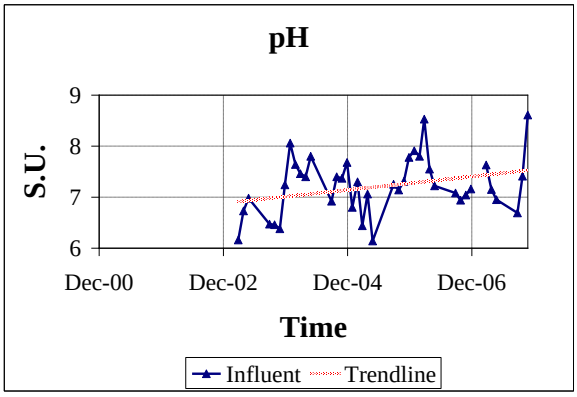


Figure 7 pH in influent and effluent: Outfall 001.



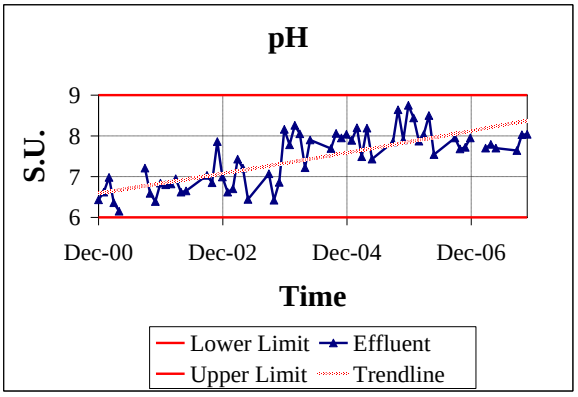
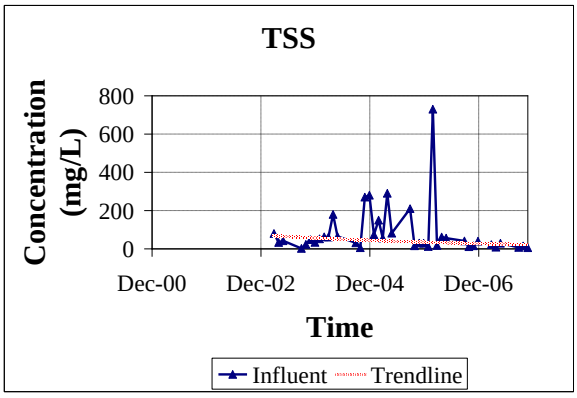


Figure 8 Total suspended solids in influent and effluent: Outfall 001.



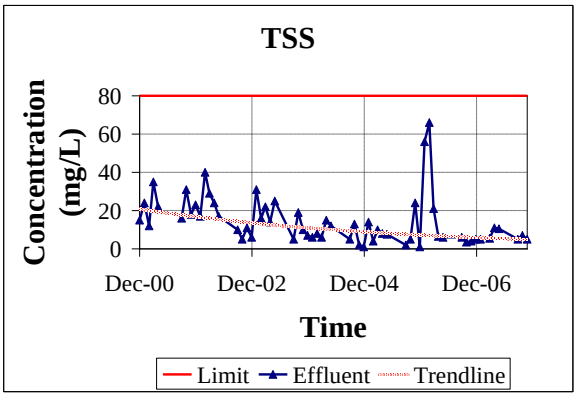


Figure 9 Effluent flow: Outfall 001.

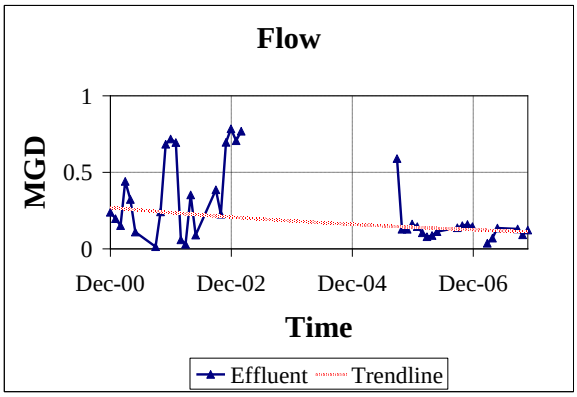


Figure 10 Arsenic in effluent: Outfall 002.

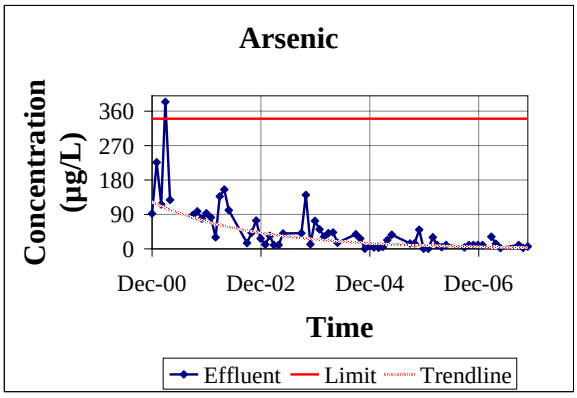


Figure 11 Hexavalent chromium in effluent: Outfall 002.

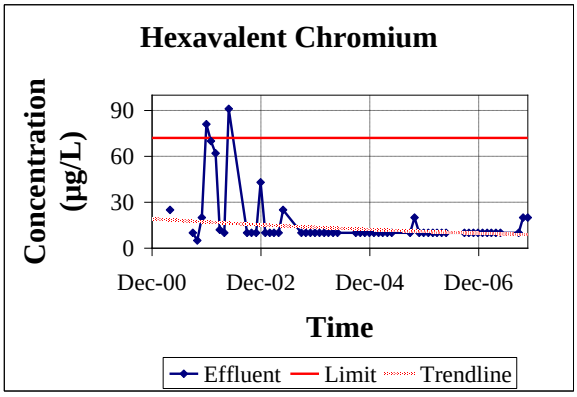


Figure 12 Total chromium in effluent: Outfall 002.

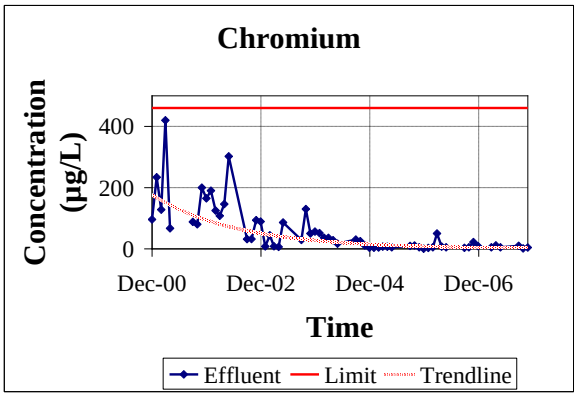


Figure 13 Total copper in effluent: Outfall 002.

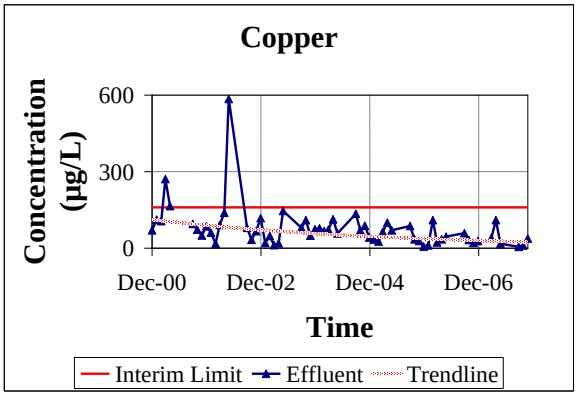


Figure 14 Oil and grease in effluent: Outfall 002.

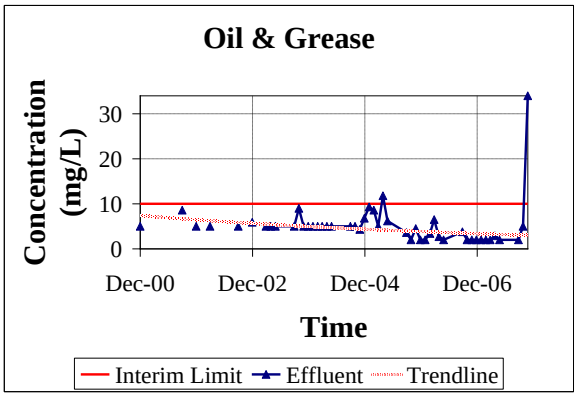


Figure 15 pH in effluent: Outfall 002.

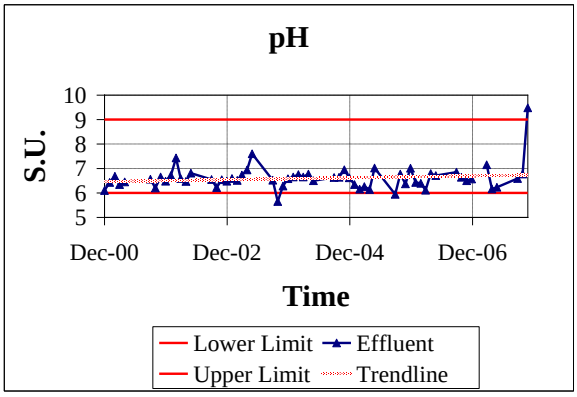


Figure 16 Total suspended solids in effluent: Outfall 002.

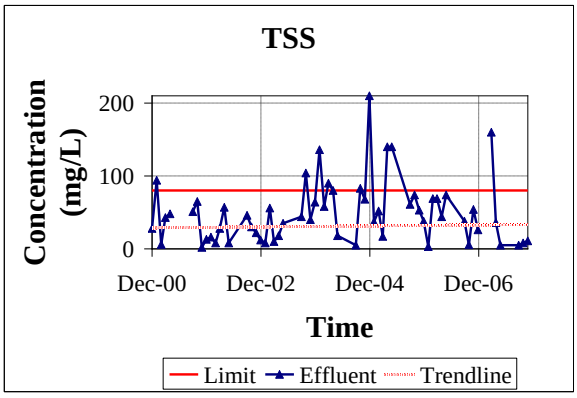
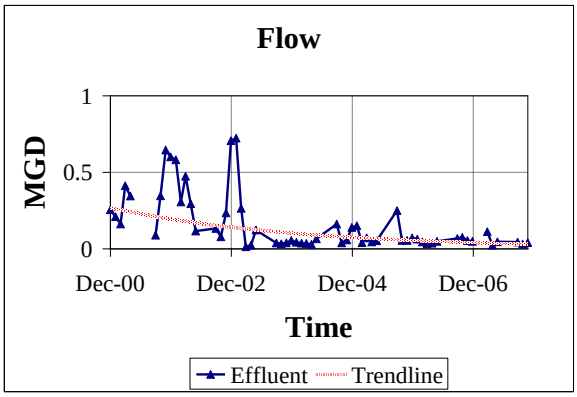


Figure 17 Effluent flow: Outfall 002.



III. PROPOSED PERMIT CONDITIONS

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

- Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or Ecology develops the limit on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC).
- Water quality-based limits are calculated so that the effluent will comply with the Surface Water Quality Standards (chapter 173-201A WAC), Ground Water Standards (chapter 173-200 WAC), Sediment Quality Standards (chapter 173-204 WAC) or the National Toxics Rule (40 CFR 131.36).
- Ecology must apply the most stringent of these limits to each parameter of concern. These limits are described below.

The limits in this permit reflect information received in the application. Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the State of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation.

Nor does Ecology usually develop permit limits for pollutants that were not reported in the permit application but that may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology, as described in 40 CFR 122.42(a), if significant changes occur in any constituent. Industries may be in violation of their permit until the permit is modified to reflect additional discharge of pollutants.

A. Technology-Based Effluent Limits

The EPA promulgated categorical guidelines for process wastewater from the wood treating industry under 40 CFR part 429. The categorical guideline prohibits the discharge of any process wastewater, and explicitly exempts storm water from the definition of process wastewater. TrueGuard does not discharge any process wastewater, thus meeting the technology-based limitations for pollutants from process wastewater.

The EPA has not promulgated categorical guidelines for pollutants in storm water from wood treating facilities. However, Ecology must make a determination that All Known Available and Reasonable methods of prevention, control, and Treatment (AKART) has been met for the pollutants in the storm water from TrueGuard's wood treating facility. Ecology made the determination before it issued the previous permit and current limits reflect AKART, Table 4 and Table 5, except limits for TSS and hexavalent chromium. Issuing NPDES permits for other wood preserving facilities Ecology determined that TSS limit of 50 mg/L satisfies AKART. Ecology calculated the hexavalent chromium limits found in Table 4 and Table 5 based on water quality criteria.

The Department considered the last three years (December 2004 to November 2007) to evaluate performance of the existing BMPs and stormwater treatment facility. The Department proposes new technology-based effluent limits according to Table 9 and Table 10.

Table 9 Existing and proposed technology based limits for Outfall 001

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)
O&G (mg/L)	10	10	AKART (no change)
TSS (mg/L)	80	50[10]	Wood preserving industry AKART
Arsenic (μg/L)	340	240	Performance
Chromium (μg/L)	770	190	Performance
Copper (μg/L)	160	160[11]	Wood preserving

[10] Performance based limit would be 67 μg/L.
[11] Performance based limit would be 410 μg/L.

Table 9 Existing and proposed technology based limits for Outfall 001

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
			industry AKART (no change)
Chromium, hexavalent (μg/L)	N/A	54	Performance

Table 10 Existing and proposed technology based limits for Outfall 002

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)
O&G (mg/L)	10	10	Wood preserving industry AKART (no change)
TSS (mg/L)	80	50[12]	Wood preserving industry AKART
Arsenic (μg/L)	340	160	Performance
Chromium (μg/L)	460	43	Performance
Copper (μg/L)	160	160[13]	Wood preserving industry AKART (no change)
Chromium, hexavalent (μg/L)	N/A	20	Performance

TrueGuard has diligently implemented a number of best management practices (BMPs) which have reduced: the exposure of treated lumber to precipitation, the potential for tracking of treatment chemicals off the "drip pad," and the amount of suspended solids in the storm water runoff. AKART includes full implementation of the BMPs. Ecology specified the following operational BMPs in the previous permit:

1. Separate material handling equipment is used for treated and untreated wood so that equipment coming into contact with the drip pad stays on the drip pad.

2. Treated units of lumber are "shed wrapped" or completely wrapped to minimize exposure of treated lumber to the environment.

3. Frequent maintenance of catch basins to reduce exposure of runoff to contaminated sediments.

[12] Performance based limit would be 530 μg/L.
[13] Performance based limit would be 220 μg/L.

4. Treatment of lumber in accordance with process practices that increases the fixing of the treating chemicals in the wood and reduces potential contamination of storm water.

5. Sweeping the facility on a regular basis to remove potential contaminated particles from the pavement.

6. Treated lumber is being stored in a catch basin that discharges via the treatment system and Outfall 001.

7. Untreated lumber is being stored in a catch basin that discharges via Outfall 002.

8. 12-inch painted well visible line separates both catch basins.

Ecology included these BMPs in the proposed permit.

After reviewing available date Ecology concluded that the AKART is not fully implemented at this facility because TrueGuard has not been consistently meeting the permit limits. Most of those limits, as mentioned above, reflect the AKART.

B. Surface Water Quality-Based Effluent Limits

The Washington State Surface Water Quality Standards (chapter 173-201A WAC) were designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet established surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily loading study (TMDL).

Numerical Criteria for the Protection of Aquatic Life and Recreation

Numerical water quality criteria are published in the Water Quality Standards for Surface Waters (chapter 173-201A WAC). They specify the levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. Ecology uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has published 91 numeric water quality criteria for the protection of human health that are applicable to dischargers in Washington State (40 CFR 131.36). These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The Water Quality Standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative Criteria

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses.

- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Narrative criteria protect the specific designated uses of all fresh waters (WAC 173-201A-200,; 2006) and of all marine waters (WAC 173-201A-210,; 2006) in the state of Washington.

Antidegradation

The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330; 2006) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply AKART.
- Apply three Tiers of protection (described below) for surface waters of the state.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

This facility must meet Tier I requirements.

- Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.
- TrueGuard's discharge does not meet assigned criteria. The Permit's compliance schedule requires TrueGuard to meet the assigned criteria by the end of the permitting cycle.

Mixing Zones

A mixing zone is the defined area in the receiving water surrounding the discharge port(s), where wastewater mixes with receiving water. Within mixing zones the pollutant concentrations may exceed water quality numeric criteria, so long as the diluting wastewater doesn't interfere with designated uses of the receiving water body (e.g., recreation, water supply, and aquatic life and wildlife habitat, etc.). The pollutant concentrations outside of the mixing zones must meet water quality numeric criteria.

State and federal rules allow mixing zones because the concentrations and effects of most pollutants diminish rapidly after discharge, due to dilution. Ecology defines mixing zone sizes to limit the amount of time any exposure to the end-of-pipe discharge could harm water quality, plants, or fish.

The state's water quality standards allow Ecology to authorize mixing zones for the facility's permitted wastewater discharges only if those discharges already receive AKART. Mixing zones typically require compliance with water quality criteria within 200 to 300 feet from the point of discharge; and use no more than 25 percent of the available width of the water body for dilution. We use modeling to estimate the amount of mixing within the mixing zone. Through modeling we determine the potential for violating the water quality standards at the edge of the mixing zone and derive any necessary effluent limits. Steady-state models are the most frequently used tools for conducting mixing zone analyses. Ecology chooses values for each effluent and for receiving water variables that correspond to the time period when the most critical condition is likely to occur (see Ecology's Permit Writer's Manual). Each critical condition parameter (by itself) has a low probability of occurrence and the resulting dilution factor is conservative. The term "reasonable worst-case" applies to these values.

The mixing zone analysis produces a numerical value called a dilution factor (DF). A dilution factor represents the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. For example, a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water comprises 90 percent of the total volume at the boundary of the mixing zone. We use dilution factors with the water quality criteria to calculate reasonable potentials and effluent limits. Water quality standards include both aquatic life-based criteria and human health-based criteria. The former are applied at both the acute and chronic mixing zone boundaries; the latter are applied only at the chronic boundary. The concentration of pollutants at the boundaries of any of these mixing zones may not exceed the numerical criteria for that zone.

Each aquatic life **acute** criterion is based on the assumption that organisms are not exposed to that concentration for more than one-hour and more often than one exposure in three years. Each aquatic life **chronic** criterion is based on the assumption that organisms are not exposed to that concentration for more than four consecutive days and more often than once in three years.

The two types of human health-based water quality criteria distinguish between those pollutants linked to non-cancer effects (non-carcinogenic) and those linked to cancer effects (carcinogenic). The human health-based water quality criteria incorporate several exposure and risk assumptions. These assumptions include:

- A 70-year lifetime of daily exposures.
- An ingestion rate for fish or shellfish measured in kg/day.
- An ingestion rate of two liters/day for drinking water.
- A one-in-one-million cancer risk for carcinogenic chemicals.

This permit authorizes an acute or chronic mixing zone only for Outfall 002. This authorization assumes TrueGuard full compliance with AKART. No mixing zone is authorized for Outfall 001. TrueGuard may request authorization of the mixing zones for Outfall 001 after applying AKART and submitting a mixing zone study to Ecology. The mixing zone study must reevaluate dilution at Outfall 002.

C. Description of the Receiving Water

The facility discharges to Gibbons Creek Remnant Channel. Other nearby point source outfalls include: non-contact cooling water discharge from Saint-Gobain Crystals and Detectors.

Significant nearby non-point sources of pollutants include stormwater discharges from nearby industrial facilities.

D. Designated Uses and Surface Water Quality Criteria

Applicable designated uses and surface water quality criteria are defined in chapter 173-201A WAC. In addition, the U.S. EPA set human health criteria for toxic pollutants (40 CFR 131.36). Criteria applicable to this facility's discharge are summarized below in **Table 5**.

- Aquatic Life Uses are designated based on the presence of, or the intent to provide protection for, the key uses. All indigenous fish and non-fish aquatic species must be protected in waters of the state in addition to the key species. The Aquatic Life Uses for this receiving water are identified below.

Table 5 Aquatic Life Uses & Associated Criteria

Salmonid Spawning, Rearing, And Migration	
Temperature Criteria – Highest 7DAD MAX	17.5°C (63.5°F)
Dissolved Oxygen Criteria – Lowest 1 Day Minimum	8.0 mg/L
Turbidity Criteria	• 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU
Total Dissolved Gas Criteria	Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection
pH Criteria	pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units

- The recreational uses are extraordinary primary contact recreation, primary contact recreation, and secondary contact recreation. The recreational uses for this receiving water are identified below.

Table 6 Recreational Uses & Associated Criteria

Recreational use	**Criteria**
Primary Contact Recreation	Fecal coliform organism levels must not exceed a geometric mean value of 100 colonies /100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200 colonies /100 mL

- The **water supply use**s are domestic, agricultural, industrial, and stock watering.

- The **miscellaneous fresh water use**s are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

E. Evaluation of Surface Water Quality -Based Effluent Limits for Numeric Criteria

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as biological oxygen demand (BOD) is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

Pollutant concentrations in the proposed discharge exceed water quality criteria even if technology-based controls which Ecology determined fulfills AKART are fully implemented. Ecology therefore will consider a mixing zone in accordance with the geometric configuration, flow restriction, and other restrictions imposed on mixing zones described in chapter 173-201A WAC. Ecology will consider a mixing zone when TrueGuard fully implements AKART, i.e. meets consistently technology based limits, and a mixing zone study is submitted to Ecology.

Ecology determined the impacts of pH, ammonia and toxic pollutants (metals) as described below, using the dilution factors in the above table. T he derivation of surface water quality-based limits also takes into account the variability of pollutant concentrations in both the effluent and the receiving water.

pH—Ecology does not have sufficient data to determine if compliance with the technology-based limits of 6.0 to 9.0 will assure compliance with the water quality standards of surface waters. TrueGuard must fully implement the AKART, perform mixing zone studies and request a mixing zone before Ecology can determine compliance with water quality criteria.

Ammonia—Ecology determined that concentration of ammonia at Outfall 001 and Outfall 002 is above criteria. TrueGuard must fully implement AKART, perform mixing zone studies and request a mixing zone before compliance with water quality criteria can be determined.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require Ecology to place limits in NPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. Ecology does not exempt facilities with technology-based effluent limits from meeting the surface water quality standards.

The following toxic pollutants are present in the discharge: ammonia and heavy metals, arsenic, chromium and copper. We conducted a reasonable potential analysis (See Appendix C) on these parameters to determine whether effluent limits would be required. No dilution was allowed for the analysis. Based on those analysis water quality limits are required as listed in Table 11.

Table 11 Requirement for water quality based limits for Outfall 001 and 002

Parameter	Outfall 001	Outfall 002
Ammonia	Limit required	Limit required
Arsenic (aquatic life)	Limit not required	Limit not required
Arsenic (human health[14])	Limit required	Limit required

[14] Please see a section on human health in this fact sheet.

Table 11 Requirement for water quality based limits for Outfall 001 and 002

Parameter	Outfall 001	Outfall 002
Chromium, trivalent	Limit required	Limit not required
Copper	Limit required	Limit required
Chromium, hexavalent	Limit required	Limit required

There is some uncertainty about the conditions at the point of discharge and whether dilution is available, therefore the permit requires a receiving water study. Further, water quality-based effluent limits are not placed in the permit that requires the study, but effluent limits based on demonstrated performance or established AKART, whichever is more stringent, are placed in the permit.

This limits the discharger to their current loading or AKART until the uncertainty about the receiving water condition is resolved. The permit also requires a study plan to be submitted for Ecology approval before the study proceeds.

TrueGuard may also provide data to clearly demonstrate seasonal partitioning of the dissolved metal in the ambient water in relation to an effluent discharge. Ecology may adjust metals criteria on a site-specific basis when data clearly demonstrates the seasonal partitioning in the ambient water in relation to an effluent discharge.

Ecology may also adjust metals criteria using the water effects ratio approach established by the EPA, as generally guided by the procedures in U.S.EPA Water Quality Standards Handbook, (December 1983, as supplemented or replaced).

Ecology may also adjust criteria for all pollutants when mixing zones are approved following the said receiving water study.

F. Whole Effluent Toxicity

The water quality standards for surface waters forbid discharge of effluent that causes toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Using the screening criteria in chapter 173-205-040 WAC, Ecology determined that TrueGuard's effluent has the potential to cause aquatic toxicity. However, according to WAC 173-205-030(4), Ecology may delay effluent characterization for whole effluent toxicity for existing facilities that are under a compliance schedule in a permit to implement technology-based controls and to achieve compliance with water quality-based effluent limits. TrueGuard is under a compliance schedule to implement technology-based controls and to achieve compliance with water quality-based effluent limits during next five years. Ecology will reconsider including WET testing in the next permit.

G. Human Health

Washington's water quality standards consist of 91 numeric human health-based criteria, including arsenic, which Ecology must consider when writing NPDES permits. These criteria were established in 1992 by the U.S. EPA in its National Toxics Rule (40 CFR 131.36). The National Toxics Rule allows states to use mixing zones to evaluate whether discharges comply with human health criteria.

Ecology determined that the discharge has reasonable potential to cause a violation of human health-based criterion for arsenic.

The human health-based criterion for arsenic for marine waters is 0.14 μg/L inorganic arsenic, and is based on exposure from fish and shellfish tissue ingestion. The freshwater criterion is 0.018 μg/L, and is based on exposure from fish and shellfish tissue and water ingestion. These criteria have caused confusion in implementation because they differ from the drinking water maximum contaminant level (MCL) of 50 μg/L, which is not risk-based, and because the human health criteria are sometimes exceeded by natural background concentrations of arsenic in surface water and ground water.

In Washington, when a natural background concentration exceeds the criterion, the natural background concentration becomes the criterion, and no dilution zone is allowed. This could result in a situation where natural groundwater or surface water used as a municipal or industrial source-water would need additional treatment to meet numeric effluent limits even though no arsenic was added as waste. Although this is not the case for all dischargers, we do not have data at this time to quantify the extent of the problem.

A regulatory mechanism to deal with the issues associated with natural background concentrations of arsenic in groundwater-derived drinking waters is currently lacking. Consequently, the Water Quality Program, at this time, has decided to use a three-pronged strategy to address the issues associated with the arsenic criteria. The three strategy elements are:

1. Pursue, at the national level, a solution to the regulatory issue of groundwater sources with high arsenic concentrations causing municipal treatment plant effluent to exceed criteria.

The upcoming revision of the MCL for arsenic offers a national opportunity to discuss how drinking water sources can affect NPDES wastewater dischargers. This discussion should focus on developing a national policy for arsenic regulation that acknowledges the risks and costs associated with management of the public exposure to natural background concentrations of arsenic through water sources.

2. Additional and more focused data collection.

The Water Quality Program will in some cases require additional and more focused arsenic data collection, will encourage or require dischargers to test for source water arsenic concentrations, and will pursue development of a proposal to have Ecology's Environmental Assessment Program conduct drinking water source monitoring as well as some additional ambient monitoring data. At this time, Washington NPDES permits will contain numeric effluent limits for arsenic based only on treatment technology and aquatic life protection as appropriate.

3. Data sharing.

Ecology will share data with US EPA as they work to develop new risk-based criteria for arsenic and as they develop a strategy to regulate arsenic.

At this time, Washington NPDES permits, including this permit, contain numeric effluent limits for arsenic based only on treatment technology and aquatic life protection.

H. Sediment Quality

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

Ecology could not determine at this time the potential for this discharge to cause a violation of sediment quality standards. Ecology will revisit the sediment quality issue in the next permit cycle.

K. Comparison of Effluent Limits With Limits of The Previous Permit Issued on

Table 12 Comparison of Effluent Limits for Outfall 001

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)
O&G (mg/L)	10	10	AKART (no change)
TSS (mg/L)	80	50[15]	Wood preserving industry AKART
Arsenic (μg/L)	340	240	Performance
Chromium (μg/L)	770	190	Performance
Copper (μg/L)	160	160[16]	Wood preserving industry AKART (no change)
Chromium, hexavalent (μg/L)	N/A	54	Performance

Table 13 Comparison of Effluent Limits for Outfall 002

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)

[15] Performance based limit would be 67 μg/L.
[16] Performance based limit would be 410 μg/L.

Table 13 Comparison of Effluent Limits for Outfall 002

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
O&G (mg/L)	10	10	Wood preserving industry AKART (no change)
TSS (mg/L)	80	50[17]	Wood preserving industry AKART
Arsenic (μg/L)	340	160	Performance
Chromium (μg/L)	460	43	Performance
Copper (μg/L)	160	160[18]	Wood preserving industry AKART (no change)
Chromium, hexavalent (μg/L)	N/A	20	Performance

IV. MONITORING REQUIREMENTS

Ecology requires monitoring, recording, and reporting (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's effluent limits.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

A. Lab Accreditation

Ecology requires that all monitoring data (with the exception of certain parameters) must be prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

V. OTHER PERMIT CONDITIONS

A. Reporting and Recordkeeping

Ecology based permit condition S3 on our authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

B. Spill Plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. Ecology can require a facility to develop best management plans to

[17] Performance based limit would be 530 μg/L.
[18] Performance based limit would be 220 μg/L.

prevent this accidental release [section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

TrueGuard developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update this plan and submit it to Ecology.

C. Effluent Mixing Study

Ecology estimated the amount of mixing of discharge with receiving water that occurs within the authorized mixing zone. Based on our estimate we determined the potential for the mixture to violate the water quality standards for surface waters at the edge of the mixing zone (chapter 173-201A WAC). Ecology requires TrueGuard to more accurately determine the mixing characteristics of the discharge (proposed permit Condition S.11). The facility must measure or model the characteristics of the mixture under conditions specified in the permit to assess whether our assumptions about dilution protect the receiving water quality outside the allotted dilution zone boundary.

D. Operation and Maintenance Manual

Ecology requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state and federal regulations [40 CFR 122.41(e) and WAC 173-220-150 (1)(g)]. The facility will prepare and submit an operation and maintenance manual as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150).

E. General Conditions

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all individual industrial NPDES permits issued by Ecology.

VI. PERMIT ISSUANCE PROCEDURES

A. Permit Modifications

Ecology may modify this permit to impose numerical limits, if necessary to comply with water quality standards for surface waters, with sediment quality standards, or with water quality standards for ground waters, after obtaining new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit to comply with new or amended state or federal regulations.

B. Proposed Permit Issuance

This proposed permit includes all statutory requirements for Ecology to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this permit for a term of five years.

VII. REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

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Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
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APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to TrueGuard. The permit prescribes operating conditions and wastewater discharge limits. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on March 1, 2007, and March 9, 2007, in the *Columbian* to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice on June 17, 2008, in the *Camas-Washougal Post* to inform the public and to invite comment on the proposed reissuance of this National Pollutant Discharge Elimination System permit as drafted.

The Notice –

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website.).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the proposed permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on Ecology's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed NPDES Permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled **Frequently Asked Questions about Effective Public Commenting** which is available on our website at http://www.ecy.wa.gov/biblio/0307023.html.

You may obtain further information from Ecology by telephone, 360-407-6280, or by writing to the permit writer at the address listed below.

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Jacek Anuszewski, P.E.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of prevention, control and treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor (DF)--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)--A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to receiving waters may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into receiving waters.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on Ecology's homepage at http://www.ecy.wa.gov.

PERFORMANCE-BASED EFFLUENT LIMITS for Arsenic-Outfall 001	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	2.1839
LOGNORMAL TRANSFORMED VARIANCE =	2.0021
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	24.1654
V(X) =	3740.248
VARn	2.0021
MEANn=	2.1839
VAR(Xn)=	3740.248
MAXIMUM DAILY EFFLUENT LIMIT =	238.668
AVERAGE MONTHLY EFFLUENT LIMIT =	91.056

PERFORMANCE-BASED EFFLUENT LIMITS for Chromium VI-Outfall 001	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	2.6597
LOGNORMAL TRANSFORMED VARIANCE =	0.3297
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	16.8536
V(X) =	110.930
VARn	0.3297
MEANn=	2.6597
VAR(Xn)=	110.930
MAXIMUM DAILY EFFLUENT LIMIT =	54.341
AVERAGE MONTHLY EFFLUENT LIMIT =	36.754

PERFORMANCE-BASED EFFLUENT LIMITS for Total Chromium-Outfall 001	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	2.7175
LOGNORMAL TRANSFORMED VARIANCE =	1.2032
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	27.6346
V(X) =	1779.984
VARn	1.2032
MEANn=	2.7175
VAR(Xn)=	1779.984
MAXIMUM DAILY EFFLUENT LIMIT =	194.198
AVERAGE MONTHLY EFFLUENT LIMIT =	92.009

PERFORMANCE-BASED EFFLUENT LIMITS for Copper-Outfall 001	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	4.1296
LOGNORMAL TRANSFORMED VARIANCE =	0.6516
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	86.0927
V(X) =	6808.553
VARn	0.6516
MEANn=	4.1296
VAR(Xn)=	6808.553
MAXIMUM DAILY EFFLUENT LIMIT =	406.346
AVERAGE MONTHLY EFFLUENT LIMIT =	234.509

PERFORMANCE-BASED EFFLUENT LIMITS for TSS-Outfall 001	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	1.9272
LOGNORMAL TRANSFORMED VARIANCE =	0.9601
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	11.1035
V(X) =	198.730
VARn	0.9601
MEANn=	1.9272
VAR(Xn)=	198.730
MAXIMUM DAILY EFFLUENT LIMIT =	67.109
AVERAGE MONTHLY EFFLUENT LIMIT =	34.434

PERFORMANCE-BASED EFFLUENT LIMITS for Arsenic-Outfall 002	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	1.9292
LOGNORMAL TRANSFORMED VARIANCE =	1.8489
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	17.3513
V(X) =	1611.615
VARn	1.8489
MEANn=	1.9292
VAR(Xn)=	1611.615
MAXIMUM DAILY EFFLUENT LIMIT =	162.713
AVERAGE MONTHLY EFFLUENT LIMIT =	64.457

PERFORMANCE-BASED EFFLUENT LIMITS for Chromium VI-Outfall 002	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	2.3796
LOGNORMAL TRANSFORMED VARIANCE =	0.0493
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	11.0700
V(X) =	6.190
VARn	0.0493
MEANn=	2.3796
VAR(Xn)=	6.190
MAXIMUM DAILY EFFLUENT LIMIT =	18.100
AVERAGE MONTHLY EFFLUENT LIMIT =	15.561

PERFORMANCE-BASED EFFLUENT LIMITS for Chromium-Outfall 002	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	1.7152
LOGNORMAL TRANSFORMED VARIANCE =	0.7773
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	8.1974
V(X) =	78.992
VARn	0.7773
MEANn=	1.7152
VAR(Xn)=	78.992
MAXIMUM DAILY EFFLUENT LIMIT =	43.200
AVERAGE MONTHLY EFFLUENT LIMIT =	23.700

PERFORMANCE-BASED EFFLUENT LIMITS for Copper-Outfall 002	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	3.4860
LOGNORMAL TRANSFORMED VARIANCE =	0.6733
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	45.7231
V(X) =	2008.355
VARn	0.6733
MEANn=	3.4860
VAR(Xn)=	2008.355
MAXIMUM DAILY EFFLUENT LIMIT =	220.199
AVERAGE MONTHLY EFFLUENT LIMIT =	125.933

PERFORMANCE-BASED EFFLUENT LIMITS for TSS-Outfall 002	
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION	
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE	
LOGNORMAL TRANSFORMED MEAN =	3.5299
LOGNORMAL TRANSFORMED VARIANCE =	1.3936
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1
AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0
E(X) =	68.4929
V(X) =	14211.792
VARn	1.3936
MEANn=	3.5299
VAR(Xn)=	14211.792
MAXIMUM DAILY EFFLUENT LIMIT =	531.552
AVERAGE MONTHLY EFFLUENT LIMIT =	237.905

Freshwater un-ionized ammonia criteria based on Chapter 173-201A WAC
Amended November 20, 2006

INPUT

1. Temperature (deg C):	17.5
2. pH:	9.00
3. Is salmonid habitat an existing or designated use?	Yes
4. Are non-salmonid early life stages present or absent?	Present

OUTPUT

1. Unionized ammonia NH3 criteria (mgNH3/L)	
Acute:	0.266
Chronic:	0.042
2. Total ammonia nitrogen criteria (mgN/L):	
Acute:	0.885
Chronic:	0.141

This spreadsheet calculates the reasonable potential to exceed state water quality standards for a small number of samples. The procedure and calculations are done per the procedure in Technical Support Document for Water Quality-based Toxics Control, U.S. EPA, March, 1991 (EPA/505/2-90-001) on page 56. User input columns are shown with red headings. Corrected formulas in col G and H on 5/98 (GB)

CALCULATIONS

					State Water Quality Standard		Max concentration at edge of...											
		Metal Criteria Translator as decimal	Metal Criteria Translator as decimal	Ambient Concentration (metals as dissolved)	Acute	Chronic	Acute Mixing Zone	Chronic Mixing Zone	LIMIT REQ'D?	Effluent percentile value		Max effluent conc. measured (metals as total recoverable)	Coeff Variation		# of samples	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor
Parameter		Acute	Chronic	ug/L	ug/L	ug/L	ug/L	ug/L			Pn	ug/L	CV	s	n			
Based on hardness in next column	50																	
Outfall 001																		
Ammonia (mg/L)				0	0.88	0.14	15.50	15.50	YES	0.95	0.050	2.50	0.60	0.55	1	6.20	1	1
ARSENIC (dissolved) 7440382 2M		1	1	0	360	190	125.22	125.22	NO	0.95	0.895	88.00	1.12	0.90	27	1.42	1	1
CHROMIUM(HEX) 18540299		0.982	0.962	0	15	10	76.18	74.63	YES	0.95	0.891	58.80	0.76	0.67	26	1.32	1	1
CHROMIUM(TRI) -16065831 5M Hardness dependent		0.316	0.860	0	311	101	39.11	106.44	YES	0.95	0.887	88.20	0.92	0.78	25	1.40	1	1
COPPER - 744058 6M Hardness dependent		0.996	0.996	0	8.9	6.3	495.50	495.50	YES	0.95	0.887	360.00	0.86	0.75	25	1.38	1	1
Outfall 002																		
Ammonia (mg/L)				0	0.88	0.14	4.96	4.96	YES	0.95	0.050	0.80	0.60	0.55	1	6.20	1.0	1
ARSENIC (dissolved) 7440382 2M		1.00	1.00	0	360	190	70.45	70.45	NO	0.95	0.891	50.00	1.00	0.83	26	1.41	1.0	1
CHROMIUM(HEX) 18540299		0.98	0.96	0	15	10	21.94	21.49	YES	0.95	0.895	20.00	0.29	0.28	27	1.12	1.0	1
CHROMIUM(TRI) -16065831 5M Hardness dependent		0.32	0.86	0	311	101	23.79	64.75	NO	0.95	0.887	50.00	1.20	0.94	25	1.51	1.0	1
COPPER - 744058 6M Hardness dependent		1.00	1.00	0	8.9	6.3	144.98	144.98	YES	0.95	0.887	110.00	0.72	0.65	25	1.32	1.0	1

Revised 3/00	Ambient Concentration (Geometric Mean)	Water Quality Criteria for Protection of Human Health	Max concentration at edge of chronic mixing zone.	LIMIT REQ'D?	Expected Number of Compliance Samples per Month	AVERAGE MONTHLY EFFLUENT LIMIT	MAXIMUM DAILY EFFLUENT LIMIT	Estimated Percentile at 95% Confidence		Max effluent conc. measured	Coeff Variation		# of samples from which # in col. K was taken	Multiplier	Calculated 50th percentile Effluent Conc. (When n>10)	Dilution Factor
Parameter	*ug/L*	*ug/L*	*ug/L*			*ug/L*	*ug/L*		*Pn*	*ug/L*	*CV*	**S**	*n*			
Outfall 001																
Arsenic	0.0000	0.018	10.00	**YES**	**1.00**	**0.018**	**0.047**	0.50	0.89	88.00	0.60	0.6	27	0.50	10.00	1.0
Outfall 002																
Arsenic	0.0000	0.018	2.22	**YES**	**1.00**	**0.081**	**0.209**	0.50	0.89	50.00	0.60	0.6	26	0.50	10.00	4.5

APPENDIX D--RESPONSE TO COMMENTS

Comments were received from Neil R. Alongi, PE, Principal Engineer of Maul Foster & Alongi on July 16, 2008. Mr. Alongi represents TrueGuard. The following are the comments and Ecology responses.

Maul Foster Alongi:

The permit proposes new and generally, lower permit limits for total arsenic, total chromium and hexavalent chromium. The new limits are based on historical performance of the site treatment systems. According to the permit fact sheet, the performance-based permit limits calculations are based on the post-treatment (i.e., effluent) stormwater monitoring results for the two stormwater outfalls (001 and 002) over a period of three years. MFA has reviewed the data from the period used in the Ecology calculations and has determined that the data, in most cases, represents a limited snapshot of operational history at the site and does not reasonably take into account historical variability in production levels. A longer period of time (i.e., five years) would better represent the operational variability relative to the performance of the stormwater treatment system, since it began operation in late 2002.

The analysis of the data was performed using the PERFORMLIM spreadsheet created by Ecology and the treated stormwater monitoring data from the site for the period of January 2003 to May 2008. This period was selected to represent the operational history of stormwater treatment at the Washougal plant site. The "Maximum Daily Effluent Limit" calculation within the Ecology spreadsheet is the applicable value for the permit effluent limit.

*The resulting values ("Performance-based") are displayed in the attached summary spreadsheet [**Table 14**] and compared to the existing and proposed effluent limits. In most cases, the values calculated are slightly higher than the proposed effluent limits (although, total arsenic for Outfall 001 is actually lower than the proposed permit value). MFA submits that this approach correctly concludes that, considering data from the longer operational period, the calculated effluent limits for total arsenic, total chromium, and hexavalent chromium are more representative of the site's performance under the current NPDES permit and existing treatment system. In each case, the newly calculated effluent limits are lower than the current permit values with the exception of the hexavalent chromium at Outfall 001.*

TrueGuard proposes that the Performance-based values from the attached table be used as the maximum daily effluent limitations for the Washougal plant for the coming permit period.

Table 14 Permit Limit Comparison for TrueGuard, LLC, Washougal, Washington

Sampling Location	***NPDES Permit Limit***	***Arsenic (µg/L)***	***Chromium (µg/L)***	***Hexavalent Chromium (µg/L)***
Outfall 001	*Performance-Based*[1]	*173.7*	*303.3*	*92.7*
	Proposed/Draft Permit[2]	*240.0*	*190.0*	*54.0*
	Existing Permit[3]	*340.0*	*770.0*	*48.0*

Outfall 001	*Performance-Based*	*259.2*	*131.9*	*22.1*
	Proposed/Draft Permit	*160.0*	*43.0*	*20.0*
	Existing Permit	*340.0*	*460.0*	*72.0*

Notes:

NPDES = National Pollutant Discharge Elimination System.

µg/L = micrograms per liter.

[1]Performance-based permit limit calculations performed using Washington State .

Department of Ecology permit limit calculations spreadsheet and stormwater monitoring data from January 2003 through May 2008.

[2]Permit limit proposed in the Draft NPDES Permit No. WA0040029.

[3]Permit limit in the existing NPDES Permit No. WA0040029.

Ecology:

Ecology recalculated performance base limits for arsenic and chromium at Outfall 001; and arsenic, chromium and hexavalent chromium at Outfall 002 for the period of January 2003 to May 2008. All limits were found higher that those proposed by TrueGuard in **Table 14**. The differences are due to more data points used by TrueGuard to calculate the limits. Also, Ecology discovered data entry errors in TrueGuard's spreadsheets.

To expedite the permitting process, Ecology adopts the limits proposed by TrueGuard after rounding them to two significant digits (Table 15 and Table 16), since the proposed limits are lower that corresponding limits recalculated by Ecology.

Also, Ecology found inconsistency between the Clean Water Act and a proposed hexavalent chromium limit at Outfall 001. The proposed limit exceeds an existing limit and therefore violates the anti-backsliding provision of the Clean Water Act. The proposed hexavalent chromium limit at Outfall 001 is set back to an existing limit of 48 µg/L. TrueGuard did not provide sufficient explanation to support changing the limit to a higher value.

Table 15 Comparison of Effluent Limits for Outfall 001

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)
O&G (mg/L)	10	10	AKART (no change)
TSS (mg/L)	80	50[19]	Wood preserving industry AKART

[19] Performance based limit would be 67 µg/L.

Table 15 Comparison of Effluent Limits for Outfall 001

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
Arsenic (µg/L)	340	170	Performance based limit calculated by TrueGuard
Chromium (µg/L)	770	300	Performance based limit calculated by TrueGuard
Copper (µg/L)	160	160[20]	Wood preserving industry AKART (no change)
Chromium, hexavalent (µg/L)	48	48	Existing limit (no change)

Table 16 Comparison of Effluent Limits for Outfall 002

Parameter	Existing maximum daily limits	Proposed maximum daily limits	Base for the proposed limits
pH (standard units)	between 6 and 9	between 6 and 9	AKART (no change)
O&G (mg/L)	10	10	Wood preserving industry AKART (no change)
TSS (mg/L)	80	50[21]	Wood preserving industry AKART
Arsenic (µg/L)	340	260	Performance based limit calculated by TrueGuard
Chromium (µg/L)	460	130	Performance based limit calculated by TrueGuard
Copper (µg/L)	160	160[22]	Wood preserving industry AKART (no change)
Chromium, hexavalent (µg/L)	72	22	Performance based limit calculated by TrueGuard

[20] Performance based limit would be 410 µg/L.
[21] Performance based limit would be 530 µg/L.
[22] Performance based limit would be 220 µg/L.

Maul Foster Alongi:

A minor item is the wording of the first bulleted BMP under Section S10 Best Management Practices. The BMP as currently worded could be interpreted to mean that separate material handling equipment is required for treated and untreated wood even when both are on the drip pad. The BMPs intent is to have dedicated equipment, such as forklifts, stay on the drip pad whether they are handling treated or untreated wood on the drip pad. Equipment that needs to be removed from the drip pad would be triple rinsed before leaving. The BMP should be reworded as follows to clear up any ambiguity:

- *Material handling equipment coming into contact with the drip pad stays on the drip pad unless triple rinsed.*

Ecology:

The first bulleted BMP under section S10 Best Management Practices is reworded as proposed above.

Ecology:

An inconsistency was notice between the permit and fact sheet. The fact sheet states:

The EPA promulgated categorical guidelines for process wastewater from the wood treating industry under 40 CFR part 429. The categorical guideline prohibits the discharge of any process wastewater, and explicitly exempts storm water from the definition of process wastewater. TrueGuard does not discharge any process wastewater, thus meeting the technology-based limitations for pollutants from process wastewater.

However, the permit does not clearly prohibit the process wastewater discharges. The following two paragraphs are added to Process Wastewater Discharges in section S1. DISCHARGE LIMITATIONS.

A. Process Wastewater Discharges

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee shall not discharge process wastewater.

Process wastewater is defined as all wastewater generated as a result of conditioning wood prior to or during the treatment process; any wastewater generated as a result of preservative formulation, recovery or generation; any wastewater generated as a result of process area cleaning operations including, but not limited to, wastewater from the drip pad, retort and tank farm maintenance operations; and any storm water associated with the process area including the tank farm, retort, drip pad and any area that treated product is moved across prior to its having ceased dripping.

Remaining content of the Process Wastewater Discharges is renamed to:

B. Stormwater Discharges from the Treated and Untreated Product Storage Areas